CLAIMS

What is claimed is:

1.   A portable calibration unit for calibrating test equipment comprising:

a communication interface for connecting to a computer embedded within said test equipment;

a variable signal source for producing a test signal;

a processor in communication with said computer for controlling said variable signal source; and

a test interface for communicating said test signal to said test equipment.

2.   The portable calibration unit of claim 1 further comprising:

a digital to analog converter (DAC) in communication with said processor, said DAC converting control signals received from said computer for controlling said variable signal source.

3.   The portable calibration unit of claim 1 further comprising:

a filter in communication with said variable signal source for filtering harmonics of said test signal outside of a desired test range.

4.   The portable calibration unit of claim 1 further comprising:

a signal conditioning circuit for conditioning said test signal communicated from said test interface.

5.   The portable calibration unit of claim 4 wherein said signal conditioning circuit comprises:

a power amplifier;

a diode detector; and

a level controlling circuit for maintaining a consistent level of said test signal.

6.   The portable calibration unit of claim 4 further comprising:

an analog to digital converter (ADC) in communication with said signal conditioning circuit and said processor, said ADC for providing information on said test signal to said processor, wherein said processor communicates said information to said computer.

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7.   The portable calibration unit of claim 6 further comprising:

a DAC for converting signals received from said processor to control an output of said conditioning circuit, wherein said processor receives said signals from said computer.

8.   The portable calibration unit of claim 1 further comprising:

a fractional-n phase locked loop (PLL) in communication with said variable signal source to decrease a step-size of said test signal.

9.   The portable calibration unit of claim 1 wherein power for said unit is supplied by at least one of:

said test equipment;

a battery; and

an external power connector.

10.   The portable calibration unit of claim 4 further comprising:

an ovenizer to heat selected elements of said portable calibration unit.

11.   The portable calibration unit of claim 2 further comprising:

a memory within said computer for storing a computer program for directing the generation of said control signals.

12.   A method for portably calibrating a test system comprising:

establishing a communication link between a calibration pod and a personal computer (PC) embedded within said test system;

generating a test signal within said calibration pod responsive to a digital signal received from said PC; and

transmitting said test signal to a test subject of said test system.

13.   The method of claim 12 further comprising:

converting said digital signal into an analog signal for said calibration pod to generate said test signal.

14.   The method of claim 12 further comprising:

filtering harmonics from said test signal prior to said transmitting.

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15. The method of claim 12 further comprising:

conditioning said test signal through at least:

a power amplifier; and

a automatic level control (ALC).

16. The method of claim 15 further comprising:

measuring an analog value of said test signal exiting said ALC;

converting said analog value into a digital value; and

transmitting said digital value to said PC.

17. The method of claim 16 further comprising:

receiving at said calibration pod digital control signals from said PC for controlling an output of said calibration pod;

converting said digital control signals into analog control signals; and

transmitting said analog control signals to said ALC.

18. The method of claim 12 further comprising:

heating selected elements of said calibration pod prior to said generating.

19. A system for calibrating test equipment comprising:

a calibration unit having an interface for connecting to a personal computer (PC) embedded in said test equipment;

a processor within said calibration unit, said processor configured to receive digital control signals from said PC;

a signal source for generating a test signal responsive to said digital control signals; and

a test connection for connecting said calibration unit to said test equipment, wherein said test signal is transmitted to said test equipment using said test connection.

20. The system of claim 19 further comprising:

memory within said PC storing one or more calibration applications, said one or more calibration applications prompting selected ones of said digital control signals.

21.   The system of claim 19 further comprising:

means for converting said digital control signals into analog control signals for controlling said signal source.

22.   The system of claim 19 further comprising:

a low pass filter for filtering out harmonics of said test signal.

23.   The system of claim 19 further comprising:

an amplifier for conditioning said test signal;

a diode detector; and

an automatic level controller (ALC), for controlling a level of said test signal.

24.   The system of claim 19 further comprising:

means for reading a value of said test signal at said calibration unit; and

means for forwarding said value to said PC.

25.   The system of claim 19 further comprising:

means for decreasing a step size in signals generated by said signal source.

26.   The system of claim 19 wherein power for said calibration unit is provided by at least one of:

said test equipment;

an alternating current (AC) source; and

a direct current (DC) source.

27.   The system of claim 23 further comprising:

means for heating at least one of:

said amplifier;

said diode detector; and

said ALC.